



## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2022-1244; Project Identifier MCAI-2022-00872-E]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Rolls-Royce Deutschland Ltd & Co KG (Type Certificate previously held by Rolls-Royce plc) Turbopan Engines**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** The FAA proposes to supersede Airworthiness Directive

(AD) 2020-12-01, which applies to certain Rolls-Royce Deutschland Ltd. & Co KG (RRD) Trent XWB-75, Trent XWB-79, Trent XWB-79B, and Trent XWB-84 model turbopan engines. AD 2020-12-01 requires initial and repetitive inspections of the low-pressure compressor (LPC) outlet guide vane (OGV) outer mount ring assembly and, depending on the results of the inspections, possible replacement of the LPC OGV outer mount ring assembly. Since the FAA issued AD 2020-12-01, it was determined that these inspections are also necessary for RRD Trent XWB-97 model turbopan engines. This proposed AD would require initial and repetitive inspections of the LPC OGV outer mount ring assembly and, depending on the results of the inspections, replacement of the LPC OGV outer mount ring assembly, as specified in a European Union Aviation Safety Agency (EASA) AD, which is proposed for incorporation by reference (IBR). The FAA is proposing this AD to address the unsafe condition on these products.

**DATES:** The FAA must receive comments on this NPRM by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to [regulations.gov](https://www.regulations.gov). Follow the instructions for submitting comments.

- Fax: (202) 493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

*AD Docket:* You may examine the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2022-1244; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, the EASA AD, any comments received, and other information. The street address for Docket Operations is listed above.

*Material Incorporated by Reference:*

- For material that is proposed for IBR in this AD, contact EASA, Konrad-Adenauer-Ufer 3, 50668 Cologne, Germany; phone: +49 221 8999 000; email: [ADs@easa.europa.eu](mailto:ADs@easa.europa.eu). You may find this material on the EASA website at [ad.easa.europa.eu](http://ad.easa.europa.eu).

- You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call (817) 222-5110.

**FOR FURTHER INFORMATION CONTACT:** Sungmo Cho, Aviation Safety Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: (781) 238-7241; email: [sungmo.d.cho@faa.gov](mailto:sungmo.d.cho@faa.gov).

**SUPPLEMENTARY INFORMATION:**

**Comments Invited**

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under ADDRESSES. Include “Docket No. FAA-2022-1244; Project Identifier MCAI-2022-00872-E” at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data.

The FAA will consider all comments received by the closing date and may amend the proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to regulations.gov, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this NPRM.

### **Confidential Business Information**

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to Sungmo Cho, Aviation Safety Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

### **Background**

The FAA issued AD 2020-12-01, Amendment 39-21135 (85 FR 34959, June 8, 2020) (AD 2020-12-01), for certain RRD Trent XWB-75, Trent XWB-79, Trent XWB-79B, and Trent XWB-84 model turbofan engines. AD 2020-12-01 was prompted by analysis by the manufacturer of the LPC OGV assembly and LPC OGV outer mount ring assembly. The analysis predicted that when the front engine mount is in the fail-safe condition, the most highly stressed LPC OGV outer mount ring assembly has a life that could be substantially less than one shop visit interval. AD 2020-12-01 requires initial and repetitive inspections of the LPC OGV outer mount ring assembly, and depending on the results of the inspections, possible replacement of the OGV outer mount ring

assembly. The agency issued AD 2020-12-01 to prevent failure of the front engine mount support structure.

#### **Actions Since AD 2020-12-01 Was Issued**

Since the FAA issued AD 2020-12-01, EASA, which is the Technical Agent for the Member States of the European Union, has issued EASA AD 2022-0129, dated June 30, 2022 (the MCAI) to address an unsafe condition for all RRD Trent XWB-75, Trent XWB-79, Trent XWB-79B, Trent XWB-84, and Trent XWB-97 model turbofan engines. The MCAI states that EASA AD 2022-0129 superseded EASA AD 2019-0234. EASA AD 2019-0234 specified that operators perform repetitive inspections (on-wing or in-shop) of the OGV outer mount ring assembly lug fillet area in accordance with RRD Alert Non-Modification Service Bulletin (NMSB) Trent XWB 72-AK188, Initial Issue, dated August 13, 2019. The manufacturer subsequently revised the NMSB and determined that the inspections of the LPC OGV outer mount ring assembly are also necessary for RRD Trent XWB-97 model turbofan engines. In addition, manufacturer analysis indicated that the on-wing inspections, previously specified in RRD NMSB Trent XWB 72-AK188, original issue, dated August 13, 2019, could be discontinued, and the interval of the in-shop inspection could coincide with a qualified shop visit, as outlined in RRD NMSB Trent XWB 72-AK188, Revision 3, dated May 9, 2022. As a result, EASA issued EASA AD 2022-0129 to discontinue the on-wing inspections, allow the in-shop inspection interval to be adjusted, and expand the applicability to include Trent XWB-97 model turbofan engines.

You may examine the MCAI in the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2022-1244.

#### **Related Service Information under 1 CFR Part 51**

The FAA reviewed EASA AD 2022-0129. This EASA AD specifies instructions for performing fluorescent penetrant inspections (FPIs) of the LPC OGV outer mount ring assembly.

This material is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in ADDRESSES.

## **Other Related Service Information**

The FAA reviewed RRD Alert NMSB Trent XWB 72-AK188, Revision 3, dated May 9, 2022. This service information specifies procedures for performing FPIs of the LPC OGV outer mount ring assembly.

## **FAA's Determination**

This product has been approved by the aviation authority of another country, and is approved for operation in the United States. Pursuant to the FAA's bilateral agreement with the State of Design Authority, the FAA has been notified of the unsafe condition described in the EASA AD. The FAA is issuing this AD after determining that the unsafe condition described previously is likely to exist or develop in other products of the same type design.

## **Proposed AD Requirements in this NPRM**

This proposed AD would retain none of the requirements of AD 2020-12-01. This proposed AD would require accomplishing the actions specified in EASA AD 2022-0129, described previously, as incorporated by reference, except for any differences identified as exceptions in the regulatory text of this proposed AD and except as discussed under "Differences Between this Proposed AD and the EASA AD."

## **Explanation of Required Compliance Information**

In the FAA's ongoing efforts to improve the efficiency of the AD process, the FAA developed a process to use some civil aviation authority (CAA) ADs as the primary source of information for compliance with requirements for corresponding FAA ADs. The FAA has since coordinated with other manufacturers and CAAs to use this process. As a result, the FAA proposes to incorporate by reference EASA AD 2022-0129 in the FAA final rule. This proposed AD would, therefore, require compliance with EASA AD 2022-0129 in its entirety through that incorporation, except for any differences identified as exceptions in the regulatory text of this proposed AD. Using common terms that are the same as the heading of a particular section in the EASA AD does not mean that operators need comply only with that section. For example, where the AD requirement refers to "all required actions and compliance times," compliance with this AD requirement is not limited to the section titled "Required Action(s) and Compliance

Time(s)” in EASA AD 2022-0129. Service information required by the EASA AD for compliance will be available at regulations.gov under Docket No. FAA-2022-1244 after the FAA final rule is published.

### **Differences Between this Proposed AD and the EASA AD**

Where EASA AD 2022-0129 requires compliance from its effective date, this AD requires using the effective date of this AD.

The “Remarks” section of EASA AD 2022-0129 is not incorporated by reference in this AD.

### **Costs of Compliance**

The FAA estimates that this AD, if adopted as proposed, would affect 60 engines installed on airplanes of U.S. Registry.

The FAA estimates the following costs to comply with this proposed AD:

#### **Estimated costs**

<b>Action</b>	<b>Labor Cost</b>	<b>Parts Cost</b>	<b>Cost per product</b>	<b>Cost on U.S. operators</b>
FPI the LPC OGV outer mount ring assembly	3 work-hours x \$85 per hour = \$255	\$0	\$255	\$15,300

The FAA estimates the following costs to do any necessary repairs or replacements that would be required based on the results of the proposed inspection. The agency has no way of determining the number of aircraft that might need these repairs or replacements:

#### **On-condition costs**

<b>Action</b>	<b>Labor Cost</b>	<b>Parts Cost</b>	<b>Cost per product</b>
Repair LPC OGV outer mount ring assembly	.5 work-hours x \$85 per hour = \$42.50	\$0	\$42.50
Replace the LPC OGV outer mount ring assembly	8 work-hours x \$85 per hour = \$680	\$2,418,121	\$2,418,801
Replace the OGV outer mount ring only	8 work-hours x \$85 per hour = \$680	\$894,319	\$894,999

## **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

## **Regulatory Findings**

The FAA determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Would not affect intrastate aviation in Alaska, and
- (3) Would not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

## **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

## **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

**§ 39.13 [Amended]**

2. The FAA amends § 39.13 by:

a. Removing Airworthiness Directive 2020-12-01, Amendment 39-21135

(85 FR 34959, June 8, 2020); and

b. Adding the following new airworthiness directive:

**Rolls-Royce Deutschland Ltd & Co KG (Type Certificate previously held by Rolls-Royce plc) Turbofan Engines:** Docket No. FAA-2022-1244; Project Identifier MCAI-2022-00872-E.

**(a) Comments Due Date**

The FAA must receive comments on this airworthiness directive (AD) action by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**(b) Affected ADs**

This AD replaces AD 2020-12-01, Amendment 39-21135 (85 FR 34959, June 8, 2020) (AD 2020-12-01).

**(c) Applicability**

This AD applies to Rolls-Royce Deutschland Ltd. & Co KG (RRD) Trent XWB-75, Trent XWB-79, Trent XWB-79B, Trent XWB-84, and Trent XWB-97 model turbofan engines as identified in European Union Aviation Safety Agency (EASA) AD 2022-0129, dated June 30, 2022. (EASA AD 2022-0129).

**(d) Subject**

Joint Aircraft Service Component (JASC) Code 7120, Engine Mount Sector.

**(e) Unsafe Condition**

This AD was prompted by analysis by the manufacturer of the low-pressure compressor (LPC) outlet guide vane (OGV) assembly and LPC OGV outer mount ring assembly. The analysis predicted that when the front engine mount is in the fail-safe condition, the most highly stressed LPC OGV outer mount ring assembly has a life that could be substantially less than one shop visit interval. The FAA is issuing this AD to prevent failure of the front engine mount support structure. The unsafe condition, if not



addressed, could result in engine separation, reduced control of the airplane, and loss of the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Required Actions**

Perform all required actions within the compliance times specified in, and in accordance with, EASA AD 2022-0129.

**(h) Exceptions to EASA AD 2022-0129**

(1) Where EASA AD 2022-0129 requires compliance from its effective date, this AD requires using the effective date of this AD.

(2) The “Remarks” section of EASA AD 2022-0129 is not incorporated by reference in this AD.

**(i) No Reporting Requirement**

Although the service information referenced in EASA AD 2022-0129 specifies to submit certain information to the manufacturer, this AD does not include that requirement.

**(j) Special Flight Permit**

Special flight permits are prohibited.

**(k) Alternative Methods of Compliance (AMOCs)**

The Manager, ECO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in § 39.19. In accordance with § 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (l) of this AD or email to: ANE-AD-AMOC@faa.gov. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

**(l) Additional Information**

For more information about this AD, contact Sungmo Cho, Aviation Safety Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: (781) 238-7241; email: sungmo.d.cho@faa.gov.

**(m) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) European Union Aviation Safety Agency AD 2022-0129, dated June 30, 2022.

(ii) [Reserved]

(3) For EASA AD 2022-0129, contact EASA, Konrad-Adenauer-Ufer 3, 50668 Cologne, Germany; phone: +49 221 8999 000; email: ADs@easa.europa.eu. You may find this EASA AD on the EASA website at ad.easa.europa.eu.

(4) You may view this service information at FAA, Airworthiness Products Section, Operational Safety Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call (817) 222-5110.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email: fr.inspection@nara.gov, or go to: [www.archives.gov/federal-register/cfr/ibr-locations.html](http://www.archives.gov/federal-register/cfr/ibr-locations.html).

Issued on September 23, 2022.

Christina Underwood, Acting Director,  
Compliance & Airworthiness Division,  
Aircraft Certification Service.

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